REMARKS

In response to the Office Action dated June 14, 2006, claims 1-10 are amended. Claims 1-10 are now active in this application. No new matter has been added.

The indication that claims 2 and 3 are objected to, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims is acknowledged and appreciated.

AMENDMENTS TO CLAIMS

Claims 2-6 and 8-10 have been amended to begin with "The" and to change "characterized in that" to "wherein". Claim 1 has been amended to change "characterized in that it includes the following operational steps" to "the method comprising:" and claim 7 has been amended to change "characterized in that it includes" to "the system comprising:". The bullets (•) appearing in claims 1 and 7 are also removed.

The above changes are directed to form and do not change the scope of the claims.

OBJECTION TO THE DRAWINGS

The drawings are objected to for not showing every feature of the invention specified in the claims. Therefore, the user equipment and base transceiver and polarity must be shown or the features cancelled from the claims.

By this response, new Fig. 3 has been submitted showing a base station transceiver 1 and user equipment 3.

With regard to polarity inversion of the relative modulation elementary units, it is disclosed on page 5, lines 2-3 that:

> This synchronization signal S includes in the known way a sequence of modulation elementary units...

Signal S is depicted in Figs. 1 and 2 as signal S. Page 5, lines 21-22 describe:

> ...the synchronization signal S' marked by the modified sequence of modulation elementary units...

Signal S' is depicted in Figs. 1 and 2 also. Finally, page 5, lines 25-27 describe:

> ... the marking of the sequence of modulation elementary units is obtained modulating the sequence of signal S with logic coefficient –1, that is, inverting its polarity.

It is submitted that it is well known in the art how to provide a signal S that includes a sequence of modulation elementary units and that designating such signal S in the drawings is clearly sufficient, as there is no objection in the Office Action. It is further submitted that it is also well known in the art how to mark the sequence of modulation elementary units of signal S by inverting the polarity of such signal S. The signal S having an inverted polarity is designated signal S' in the specification and drawings. The designation of signal S having an inverted polarity as signal S' in the drawings is sufficient to comply with requirement that the drawings show this feature of the claimed invention.

In view of the above, withdrawal of the objection to the drawings is respectfully solicited.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 102

Claims 1, 4-10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Raith (USPN 5,404,355).

The rejections are respectfully traversed.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention such that the identically claimed invention is placed into possession of one having ordinary skill in the art. ***Helifix Ltd. v. Blok-Lok, Ltd.***, 208 F.3d 1339, 200 U.S. App. LEXIS 6300, 54 USPQ2d 1299 (Fed. Cir. 2000); ***Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.,*** 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994).

Though the effects of the method disclosed in the present application and that of Raith are the same, i.e. the reduction of the Mobile Stations / User Equipments (UE) power consumption and the fast acquisition of the actually needed system information, the way in which this goal is achieved in Raith is totally different from that of the present application

Raith particularly addresses the IS 54 TDM based cellular systems, with the intention to improve the "state of the Art" Analog Control Channel (ACC), continuously transmitted on the predefined control channel frequency, by defining a new Digital Control Channel (DCC), transmitted per time slots in a TDM frame structure, which allows the Mobile Stations (MS) in idle mode to optimize/save battery consumptions and processing resources.

The goal is achieved by adding a header, or equivalently "flags", to the content of the DCC, named ***First Broadcast Control Channel*** (FBCCH), such that from its reading, the MS

can understand whether the attached message is of relevance and therefore, needs to be read and processed, or it can be disregarded:

> In this manner, the frequency at which information is transmitted is decoupled from the frequency at which the information is read. Hence, the receiver can be turned off for extended period of time to minimize power consumption (see column10, lines 3-8 of Raith).

It is important to remark that these flags represent the content of a logical channel, the FBCCH, which is transmitted in a well defined time slot of a well defined frame known in advance by the MS to provide the indication of whether other logical channels, carrying system information and also transmitted in well defined time slots and frames known in advance by the MS, have changed or not:

> ...The change flags, therefore, may be transmitted in the first DCC slot (referred to hereinafter as the FBCCH) at the beginning of each superframe and the information elements may be transmitted in the remaining portions of the first slot and in a given number of subsequent DCC slots (referred to hereinafter as the SBCCH and EBCCH) in the superframe (see column 18, lines 11-17 of Raith).

The reason why the position of the FBCCH and, at least of the SBCCH, should be fixed is provided in column 20, lines 34-66 of Raith:

> At least two considerations support the allocation of a fixed rather than a dynamic number of slots to the BCCH in the super-frame. First, changing the number of BCCH slots from one super-frame to another complicates operation of the mobile station when reading the BCCH slots (the mobile station would be required to constantly determine which slots in each super-frame are allocated to the BCCH). Second, dynamic allocation of BCCH slots would result in a waist of PCH capacity since either a large number of slots for the PCHs in the super-frame or, alternatively, a small number of slots is reserved in each superframe in which case the adjoining PCH slots would have to be discarded whenever a long BCCH message needs to be transmitted.
>
> To avoid wasting PCH capacity if dynamic BCCH slot allocation is chosen, a small number of slots could be reserved for the BCCH and the mobile stations assigned to adjoining PCH slots could be reassigned to other PCH slots in

> the superframe whenever a long BCCH message has to be transmitted. Changing the number of PCH slots (paging groups)in the superframe, however, would require the affected mobile stations to be awakened for reassignment during sleep mode which contradicts the goal of limiting battery drain. Hence, dynamic BCCH slot allocation would have to be designed for the worst case situation in which event the BCCH slots would most often (at all times other than when a long message has to be transmitted) be filled with wasteful control filler rather than useful control information.

It should be noted that even though the EBCCH can occupy different time slots and frames in a dynamic way, its actual position still needs to be signaled by the FBCCH or equivalently, by the SBCCH which uses fixed time slots and frames:

> The FBCCH and SBCCH discussed thus far use a relatively small number of slots per super-frame and serve to accommodate the desire for efficient sleep mode operation and fast cell selection (the number of slots in each of the FBCCH and SBCCH is fixed but system controlled) (see column 22, lines 32-37 of Raith).

The basic assumption of Raith is that the MSs know in advance where they can find the FBCCH and SBCCH. Taking into account that the physical synchronization process, always performed by an MS before accessing to a radio system, only provides the frame and time slot synchronization and not the superframe synchronization which is a logical information. This implies that either the FBCCH/SBCCH are transmitted each frame of a superframe in a well known time slot, thereby preventing their time multiplexing with other logical channels, or the MS shall know in advance in which frame of the superframe they are transmitted. With respect to this, Raith does not provide any teaching.

The present application starts from a "state of the art" which already foresees a Digital Control Channel carrying time multiplexed different logical information, providing a method which allows the User Equipment (UE) to know when a given system Information can be found

without knowing in advance the time slot, or the starting frame from which any of the system logical information are sent.

This goal is achieved by designing the system synchronization channel, a predefined physical channel that every UE aiming to access to the system service has to detect first, such that it indicates *someway* to the UEs where to find the pointer, which is a logical information, to all the other logical information of the system. Since the synchronization channel is a physical signal, this indication has to be provided at physical layer, as suggested in claims 2 and 3 of the present application. Currently, the synchronization channel of a UMTS system allows the UEs to acquire the frame and time slot synchronization. With Raith, it will also be possible for the UEs to know when, from the time slot assigned to the BCCH, the UE can read the logical information which teaches how the different logical system information have been organized in the time domain. However, contrary to Raith, the present application does not require transmitting any of the logical information, pointer included, at a predefined/fixed point in time or at every frame of the superframe.

The following comments are provided with respect to the Examiner's interpretation of Raith in the Office Action.

Page 3, line 16:
Fig.9 of Raith does not refer to codes but to logical channels structure (see also column 10, line 45).

Page 3, line 17:
Column 11, line 12 of Raith only refers to synchronization as part of signaling protocols (it is between brackets).

Page 3, line 18:
There is no reference in Raith about the fact that the synchronization signal (also not mentioned as signal, see above) contains a 'modulation elementary units sequence'.

Page 3, lines 21-22:
Again, there is no description in Raith (column 11, lines 10-16) about marking the synchronization signal in at least one frame.

Page 4, lines 1-2:
Each Flag Fi discussed in Raith (column 16, lines 2-5) does not represent a pointer to the position of the Information Element Ei but only a 'pointer' to the fact that the corresponding Information Element Ei has changed in content and shall be read by the mobile station (column 16, lines 9-15). As a matter of fact, Raith describes a fixed pre-defined relative position between each Flag Fi and its related Information Element Ei (column 16, lines 9-10 and Fig. 8) while in the present application, it is disclosed that, by reading the pointer message, the UE knows the position of the system message since this position may vary in time.

Page 4, line 6:
Concerning the reception of the pointer message by the mobile unit and the relationship with Raith (column 15, lines 65-67), see the comment above discussing the meaning of the Flags defined in Raith.

Page 4, lines 7-8:
Concerning the extraction from the pointer message of the position of at least a system message by the mobile unit and the relationship with Raith (column 15, lines 65-67), again, see the comment above discussing the meaning of the Flags defined in Raith.

Page 4, lines 9-12:
Raith column 16, lines 6-20 does not give the position of the system information message (see comment above) and does not give any information about the frame number of the system message. Only an indication is given (changing Flag) on whether the related Information Elements shall be read or not. Once again, Flags and Information Elements position are fixed /pre-defined.

Page 4, lines 13-15:
Fig. 5 of Raith does not show any synchronization signal as such, but only shows a periodic structure (TDM frame).

Clearly, the present application and Raith both allow optimizing the Mobile Stations (MS) / User Equipments (UE) power consumptions, but start from different assumptions and

arrive to different solutions. Raith assumes that the MS already knows the time position of the FBCCH and SBCCH logical channels (or that these channels are transmitted every frame of the superframe) from which it can derive the indication on whether a system information has been changed since its last reading and possibly where it can find additional extended BCCHs. In contrast, the present application assumes that the UE has just synchronized to a radio system via correlation to its synchronization channel, and that such physical channel provides the indication of the time slot and frame where the UE can start reading a first logical channel, or pointer, which in turn contains the indication of how all the other system information have been actually configured in the time domain. In this way, the position in time of every system information can be dynamically changed based on the current need, without having to exclusively assign resources to one single logical channel and with no impacts on the locked UEs power consumption.

The above differences and points between the claimed system and method vis-à-vis the system and method of Raith undermine the factual determination that Raith identically describes the claimed inventions within the meaning of 35 U.S.C. § 102. ***Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.,*** 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); ***Kloster Speedsteel AB v. Crucible Inc.,*** 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986). Applicants, therefore, submit that the imposed rejection of claims 1 and 4-10 under 35 U.S.C. § 102 for lack of novelty as evidenced by Raith is not factually or legally viable and, hence, solicit withdrawal thereof, as well as the allowance of claims 1 and 4-10.

CONCLUSION

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Edward J. Wise (Reg. No. 34,523) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By _____
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Attachment: Replacement Drawing

MKM/EJW/vd

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawing includes new Fig. 3 showing a base station and user equipment recited in the claims.

Attachment: Replacement sheet